TABLE 2.—*Free-air resultant winds (m. p. s.) during June, 1926*

Altitude, m. s. l.	Broken Arrow, Okla. (233 meters)				Due West, S. C. (217 meters)				Ellendale, N. Dak. (444 meters)				Groesbeck, Tex. (141 meters)				Royal Center, Ind. (225 meters)				Washington, D. C. (34 meters)	
	Mean		Normal 8-year mean		Mean		Normal 6-year mean		Mean		Normal 9-year mean		Mean		Normal 8-year mean		Mean		Normal 8-year mean		Mean	
(*Meters*)	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
Surface	S. 31° W.	1.5	S. 6° W.	4.1	S. 75° W.	2.8	S. 73° W.	1.4	N. 50° W.	2.4	N. 63° W.	0.2	S. 16° W.	4.1	S. 3° E.	3.4	S. 76° W.	3.4	S. 60° W.	1.6	W.	0.4
250	S. 30° W.	1.6	S. 5° W.	4.2	S. 76° W.	3.0	S. 74° W.	1.5					S. 17° W.	5.0	S. 3° E.	4.1	S. 73° W.	3.8	S. 54° W.	1.7	N. 79° W.	1.5
500	S. 14° W.	3.3	S. 10° W.	5.5	S. 80° W.	3.9	S. 79° W.	2.2	N. 57° W.	2.4	N. 71° W.	0.3	S. 18° W.	6.2	S. 3° W.	5.4	S. 77° W.	6.2	S. 57° W.	3.0	N. 82° W.	2.7
750	S. 14° W.	3.4	S. 14° W.	6.1	S. 82° W.	4.5	S. 75° W.	2.8	N. 58° W.	2.5	S. 33° W.	0.7	S. 19° W.	6.5	S. 6° W.	5.8	S. 79° W.	7.4	S. 60° W.	4.1	N. 34° W.	6.7
1,000	S. 57° W.	5.4	S. 24° W.	6.3	S. 84° W.	5.6	S. 80° W.	2.9	N. 63° W.	3.1	S. 45° W.	1.3	S. 26° W.	6.2	S. 9° W.	6.2	S. 85° W.	8.0	S. 70° W.	4.8	N. 77° W.	4.8
1,250	S. 41° W.	3.2	S. 27° W.	6.3	S. 83° W.	6.5	S. 82° W.	3.6	N. 67° W.	3.6	S. 62° W.	1.9	S. 23° W.	5.4	S. 10° W.	6.4	N. 88° W.	9.5	S. 77° W.	5.5		
1,500	S. 55° W.	3.3	S. 32° W.	6.4	S. 89° W.	7.4	S. 84° W.	4.5	N. 60° W.	4.8	S. 68° W.	2.4	S. 32° W.	4.9	S. 12° W.	5.9	N. 83° W.	9.6	S. 85° W.	5.5	N. 67° W.	7.5
2,000	S. 66° W.	5.5	S. 38° W.	6.6	S. 81° W.	7.9	S. 86° W.	6.2	N. 57° W.	6.5	S. 76° W.	3.6	S. 27° W.	3.6	S. 12° W.	5.5	N. 74° W.	12.1	S. 88° W.	8.0	N. 81° W.	8.6
2,500	S. 68° W.	5.4	S. 40° W.	6.7	S. 79° W.	9.5	S. 84° W.	6.6	N. 61° W.	8.4	S. 80° W.	5.5	S. 8° E.	3.0	S. 12° W.	5.3	N. 70° W.	15.1	S. 85° W.	9.5	N. 89° W.	10.6
3,000	S. 67° W.	7.6	S. 41° W.	6.5	S. 82° W.	9.8	S. 86° W.	8.4	N. 59° W.	10.9	S. 85° W.	7.5	S. 24° E.	4.6	S. 14° W.	5.4	N. 64° W.	15.5	S. 89° W.	10.8	S. 86° W.	11.1
3,500	S. 68° W.	8.8	S. 48° W.	6.9	W.	12.0	S. 84° W.	9.7	N. 58° W.	13.4	S. 87° W.	9.4	S. 26° E.	5.6	S. 6° W.	5.6	N. 59° W.	12.2	S. 89° W.	10.8	N. 85° W.	10.2
4,000	S. 73° W.	10.0	S. 63° W.	7.4	W.	9.3	S. 84° W.	9.5	N. 69° W.	13.5	S. 89° W.	11.7					N. 53° W.	14.4	N. 82° W.	13.0	N. 84° W.	11.1
4,500	S. 89° W.	10.6	S. 88° W.	8.4	W.	13.0	N. 70° W.	13.1	N. 61° W.	18.0	N. 82° W.	13.4					N. 68° W.	18.0	N. 86° W.	9.5	W.	10.4
5,000	S. 45° W.	10.0	N. 83° W.	11.2	W.	14.0	N. 70° W.	10.7	N. 45° W.	13.0	N. 70° W.	14.2					N. 68° W.	18.0	N. 42° W.	19.4	N. 88° W.	10.0

THE WEATHER ELEMENTS

By P. C. DAY, In Charge of Division

PRESSURE AND WINDS

On the whole June, 1926, was without marked features and over much of the thickly populated portions of the Middle and Eastern States it was pleasantly cool during the greater part, though mainly not sufficiently so to seriously interfere with seasonal crop development.

Like most of the months since the beginning of the year the weather continued warmer than normal in the more western districts and distinctly cool in the eastern and southern portions.

The pressure distribution was not abnormal and cyclones were confined mainly to the northern districts east of the Rocky Mountains, generally passing over the Great Lakes, where several developed into storms of considerable importance.

No cyclones of importance entered the United States from the far Northwest, though two or more appear to have had their origin during the second decade in British Columbia, and maintained their identity as moderate depressions moving eastward across the country by way of the Great Lakes and into the St. Lawrence Valley. There were only slight evidences of cyclonic activity in the Gulf and South Atlantic States.

There was little storm activity in the central Plains and to the eastward save about the 12th to 15th when a moderate cyclone moved from the middle Rocky Mountains eastward to New England and the Middle Atlantic States, attended by the most important and extensive precipitation of the month. Rains occurred in portions of the Great Plains, and there were moderate to heavy falls in the central valleys and over most eastern districts. Important precipitation also occurred on the 5th and 6th over the Gulf States and along the Atlantic coast to southern New England and on the 16th and 17th when some heavy local falls occurred in the lower Missouri and upper Mississippi Valleys and in southern Florida. Rather general rains occurred over the Gulf and South Atlantic States on the 20th and 21st, and precipitation was rather general over the northern States east of the Rocky Mountains on the 21st and 22d, and again over the Gulf and Atlantic Coast States on the 23d and 24th, and on the 27th and 28th, though there was little evidence of cyclonic action on any of these dates.

Anticyclones of importance were notably infrequent and they exerted no important influence on the weather of the month save on the 16th and 17th when high pressure caused sharp temperature falls in the Atlantic Coast States, and similar conditions existed on the 20th and 21st, and high pressure caused a rather important lowering of the temperature over the central valleys and generally to the eastward on the 26th and 27th.

Pressure averaged somewhat higher than normal for June over the western half of both the United States and Canada and lower over the eastern half of both countries, though the changes from normal were not unusually large. Compared with the pressure for the preceding month, it was higher from the western Canadian Provinces southeastward to Texas, and over the middle Mississippi and Ohio Valleys and the Atlantic Coast States. It was lower than in May west of the Rocky Mountains, save for a small area in the far Northwest, it was lower, also, in portions of the middle Gulf States and from the Great Lakes to the Canadian Maritime Provinces.

Moderately high pressure over the Southeastern States during much of the month favored southerly winds in the Mississippi Valley, Great Plains and Gulf States, and southwest to west winds from the upper Mississippi Valley eastward. Over other parts of the country winds were greatly diversified, though there was a general tendency toward a cyclonic circulation around the Great Basin.

Local wind, hail or other damaging storms were reported on most days of the month, but were confined largely to the area between the Great Plains and Appalachian Mountains. An unusually severe thunderstorm with heavy lightning damage occurred at San Francisco, Calif., on the 7th. In the main, however, damages from such storms were moderate and but few lives were lost.

The details concerning the more important storms of the month appear as usual at the end of this section.

TEMPERATURE

As has been the case for a number of months past, the average temperatures were above normal over the western half and below over the eastern, the center of most pronounced heat covering the Plateau and Pacific Coast States, where the average departures ranged from 4° to 9°, and the means at a number of points in the area were among the highest of record for June. On the other

hand, temperatures were decidedly low for June from the Missouri Valley eastward to the Atlantic coast, the averages in most sections ranging from 4° to 6° below normal, and in portions of the Great Lakes region and northeastern States it was the coolest June of record, some stations reporting temperatures below normal on all except one or two days.

The first and last weeks were distinctly warm west of the Rocky Mountains, the positive departures ranging up to 10° or 15° per day at points in the Plateau region. During these weeks it was decidedly cool over most central and eastern districts, the negative departures ranging from 4° to 9° per day over the Great Lakes and south and east of them. The second week was mainly warmer than normal, save over portions of the Great Lakes and near-by areas, while the third week was mainly cooler than normal except in portions of the South and far West, where temperatures were slightly above normal.

Maximum temperatures in excess of 100° were reported from all States except those from the Lake region and Ohio Valley eastward, the maximum, 124°, occurring in southern California, and readings of 110° to 120° were reported from a number of the western Mountain and Plains States. The warmest periods were mainly during the last decade, notably about the 26th to 28th from the Great Plains westward, and on the last two days of the month, from the Great Lakes eastward and southeastward, save in New England where the 25th was the warmest day. Over the Ohio Valley and thence south and southeast the warmest days were about the 12th to 15th. At a few points in the far West the maximum temperatures were the highest of record for June.

The lowest temperatures occurred mainly during the first week from the Great Plains eastward. West of the Plains they occurred mostly during the second decade. Minimum temperatures were below freezing in all northern States and generally over the western mountains, the lowest, 15°, occurring in Colorado.

The persistence of unusual warmth over the more western portions of the United States during the present year so far, and of unusual coolness over the eastern half of the country from March to June, inclusive, and over the more northeastern States since February, inclusive, present conditions probably without parallel in some particulars during the past 50 years.

From January to June, inclusive, the temperature at Havre, Mont., has averaged 8° per day above the normal, a condition that has not previously existed at that point in nearly 50 years of authentic record. Similar conditions have existed during the year so far over many other western districts, the period of excessive heat including, in some sections, November and December of 1925. As a result the season has been greatly advanced and many fruits and other agricultural products have ripened at unusually early dates.

Over much of the eastern part of the country reverse conditions have prevailed and crop growth has been greatly delayed; in some cases, particularly in the more northeastern districts, conditions have been similar to those of 1917, though the area of greatest cold was probably not so extensive as in that year. As a result of the continued deficiency in temperatures, agricultural operations have been much delayed and crop growth over some eastern and northeastern districts has been greatly retarded.

PRECIPITATION

The general lack of precipitation which has been so widespread during much of the present year continued during June, particularly from the lower Mississippi Valley northeastward to New England and generally over the Missouri Valley and from the Rocky Mountains westward. Not more than one-fifth of the States had precipitation above normal, and in these cases the excess was mainly trifling, while the deficiencies were large over extensive areas. In a few instances the total precipitation was nearly or quite the least of record for June.

Despite the general deficiency in precipitation the important crops over no large areas have been seriously curtailed for want of moisture.

This has seemingly been due to fairly good distribution, both geographically and in the matter of time, of such rainfall as has occurred, and in most of the East to the prevalence of temperatures below normal.

SNOWFALL

Measurable amounts of snow were reported at exposed points in the Rocky Mountain regions from Colorado northward, with maximum falls of 3 to 4 inches at the highest elevations. Traces of snow or slightly more occurred in the Lake Superior region and in the mountains of northern New York.

RELATIVE HUMIDITY

For the country as a whole the relative humidity was remarkably low. This applies not only to the unusually warm western area but to the more easterly sections, where the weather was so persistently cool.

Only a few local areas in the Southern States, in the middle Rocky Mountains, and along the immediate Pacific coast had relative humidity percentages appreciably higher than normal for June.